Journal of Engineering Physics and Thermophysics 2014 vol.87 N5, pages 1057-1062

Determination of Filtration Properties of a Deformable Porous-Fractured Bed from the Results of Hydrodynamic Investigations of Horizontal Wells

Abdullin A., Mardanov R., Morozov P., Shamsiev M., Khairullin M.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2014, Springer Science+Business Media New York. A computational algorithm has been proposed for interpretation of results of hydrodynamic investigations of horizontal wells in unsteady regimes of filtration in deformable porous-fractured beds. The proposed approach makes it possible to evaluate the dependence of the permeability coefficient of fractures on pressure. A study has been made of the dynamics of change in the bottom-hole pressure after bringing a horizontal well into production and shutting it down in the nonlinear elastic regime of filtration of the fluid in a porous-fractured bed.

http://dx.doi.org/10.1007/s10891-014-1107-0

Keywords

coefficient inverse problem, descriptive regularization, horizontal well, nonlinear elastic filtration regime, permeability of fractures, porous-fractured medium, pressure curves